IOP HEP Group, People and Interested Areas

Speaker: **Dinh Nguyen Dinh**

Institute of Physics, Hanoi, Vietnam

Hanoi 2017

About the group

- **Members:**
  1. Nguyen Anh Ky, Co-leader
     Email: anhky@iop.vast.ac.vn Phone: 02437660221
  2. Nguyen T. Hong Van, Co-leader
  3. Dinh Nguyen Dinh, Ph.D
  4. Phi Quang Van, Ph.D student (defending next month)
     Email: quangvank45@gmail.com Phone: 0912682811
  5. Pham Van Ky, Ph.D
- **Institution:** Institute of Physics (IOP),
  Vietnam Academy of Science and Technology (VAST),
  18 Hoang Quoc Viet, Building 2H, Cau giay, Hanoi

Members

Theoretical Aspects

1. Neutrino physics:
   - Neutrino masses, mixing, neutrino unknown properties (absolute mass, CPV phases...)
   - Sterile neutrinos, neutrinos as DM, cosmological neutrinos...
   - Model building to explain neutrino properties
2. Phenomenology of elementary particle physics
   - Physics beyond the SM (model extensions, DM...)
   - Lepton flavor violations
   - Higgs physics
3. Mathematical physics: SUSY, Supersymmetry in harmonic superspace, Cosmology, quantum groups and applications, integrable systems (N.A.K, P.V.K, N.T.H.V)

Experimental Aspects

1. **Neutrino experiments** (N.H.V)
   - NEUT, neutrino event generator
   - Neutrino flux uncertainty, J-PARC neutrino beam monitors and T2K detector (KEK)
2. **Experiments with Belle-II**
   - An upgraded of Belle, experiments in B physics.
3. **ATLAS-LHC** (N.T.H.V, N.A.K)
   - SM precision measurements
   - New physics at ATLAS detector

Current and Recent Works

1. Model building with A4 symmetry
   - N.A. Ky, P.Q. Van and N.T.H. Van, "A neutrino mixing model based on an $A_4 \times Z_3 \times Z_4$ flavour symmetry", Phys. Rev. D **94**, no. 9, 095009 (2016)
   - D.N. Dinh, N.A. Ky, P.Q. Van and N.T.H. Van, "A see-saw scenario of an A_4 flavour symmetric standard model", arXiv:1602.07437 [hep-ph]
2. Lepton flavor violation in models of minimal LFV
   - D.N. Dinh, L. Merlo, S.T. Petcov and R. Vega-lvarez, "Revisiting Minimal Lepton Flavour Violation in the Light of Leptonic CP Violation", JHEP **1707**, 089 (2017)
3. Problems with KeV sterile neutrino
   - N.A. Ky, N.T.H. Van *et al.*, "A White Paper on keV Sterile Neutrino Dark Matter", JCAP **1701**, no. 01, 025 (2017)
4. Building a model with mirror symmetry
   - In progress

Thanks for your attention!